

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A biodegradable segmented block copolymer comprising polyol residues, wherein the polyol residues have [a melting point between about 50°C and about 80°C and] a molecular weight of at least 4000 Daltons, wherein the polyol residues are connected by acetal linkages, [and] wherein the polyol residues are selected from the group consisting of polyesters, degradable carbonates, and polyamides, and wherein the biodegradable segmented block copolymer is insoluble in physiological conditions.

2. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the acetal linkages comprise polyacetal residues.

3. (Previously Presented) The biodegradable segmented block copolymer of claim 2, wherein the polyacetal residues comprise enzyme degradable polyacetal/diamino acid ester blocks.

4. (Previously Presented) The biodegradable segmented block copolymer of claim 2, wherein the polyacetal residues comprise an incorporated bioactive diol.

5. (Previously Presented) The biodegradable segmented block copolymer of claim 2, wherein the polyacetal residues comprise enzyme degradable polyacetal/diamino acid ester blocks and incorporated bioactive agent.

6. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the segmented block copolymer is blended with at least one agent selected from the group consisting of other polymeric, ceramic, and glass material.

7. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the polyol residues have a molecular weight of at least 5000 Daltons.

8. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the polyol residues have a molecular weight between 4000 and 20000 Daltons.

9. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the polyol residues comprise a polyester.

10. (Previously Presented) The biodegradable segmented block copolymer of claim 9, wherein the polyester is selected from the group consisting of homo-polymers and co-polymers of polycaprolactone (PCL), polylactic acid (PLA, L and D forms), polyglycolic acid (PGA), polydioxanone, aliphatic esters and aromatic esters.

11. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the polyol residues comprise a degradable carbonate.

12. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the polyol residues comprise a polyamide.

13. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the biodegradable segmented block copolymer further comprises a polymer selected from the group consisting of polyglycolic acid (PGA), polycaprolactone (PCL) and polylactic acid (PLA).

14. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the biodegradable segmented block copolymer further comprises a biocompatible inorganic material.

15. (Previously Presented) The biodegradable segmented block copolymer of claim 14, wherein the biocompatible inorganic material is selected from the group consisting of calcium carbonate, hydroxyapatite (HA), and tricalcium phosphate (TCP).

16. (Canceled)

17. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein a stabilizer and/or accelerator is blended into and/or polymerized into the biodegradable segmented block copolymer.

18. (Previously Presented) The biodegradable segmented block copolymer of claim 1, further comprising a biological active agent blended in and/or reacted with the segmented block copolymer.

19. (Previously Presented) The biodegradable segmented block copolymer of claim 18, wherein said biological active agent is selected from the group consisting of a growth factor, an antibiotic, a strontium salt, a fluoride salt, a magnesium salt, a sodium salt, a bone morphogenetic factor, a chemotherapeutic agent, a pain killer, a bisphosphonate, a bone growth agent, an angiogenic factor, and any combination thereof.

20. (Previously Presented) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises a growth factor and wherein said growth factor is selected from the group consisting of platelet derived growth factor (PDGF), transforming growth factor beta (TGF-beta), insulin-related growth factor-I (IGF-I), insulin-related growth factor-II (IGF-II), fibroblast growth factor (FGF), beta-2-microglobulin (BDGF II), bone morphogenetic protein (BMP), and any combination thereof.

21. (Previously Presented) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises an antibiotic and wherein said antibiotic is selected from the group consisting of tetracycline hydrochloride, vancomycin,

cephalosporins, and aminoglycosides such as tobramycin, gentacin, and any combination thereof.

22. (Previously Presented) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises a bone growth agent and wherein said bone growth agent is selected from the group consisting of proteins of demineralised bone, demineralised bone matrix (DBM), bone protein (BO), bone morphogenetic protein (BMP), osteonectin, osteocalcin, osteogenin, and any combination thereof.

23. (Previously Presented) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises a chemotherapeutic agent and wherein said chemotherapeutic agent is selected from the group consisting of cisplatinum, ifosfamide, methotrexate, doxorubicin hydrochloride, and any combination thereof.

24. (Previously Presented) The biodegradable segmented block copolymer of claim 19, wherein said biological agent comprises a pain killer and wherein said pain killer is selected from the group consisting of lidocaine hydrochloride, bupivacaine hydrochloride, non-steroidal anti-inflammatory drugs including ketorolac tromethamine, and any combination thereof.

25. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the biodegradable segmented block copolymer further comprises a reinforcing

material.

26. (Previously Presented) The biodegradable segmented block copolymer of claim 25, wherein the reinforcing material comprises a polymer filler particulate.

27. (Currently Amended) The biodegradable segmented block copolymer of claim 25, wherein the reinforcing material comprises a fiber fibre.

28. (Canceled)

29. (Previously Presented) The biodegradable segmented block copolymer of claim 1, wherein the biodegradable segmented block copolymer forms in whole, or part, a medical device.

30. (Previously Presented) A medical device comprising the biodegradable segmented block copolymer of claim 1.

31. (Previously Presented) A method of manufacture of a medical device comprising forming *in situ* the biodegradable segmented block copolymer of claim 1.

32. (Previously Presented) The medical device of claim 30, wherein the biodegradable segmented block copolymer comprises a coating on the medical device.